



SING SWEE BEE GROUP



**INTEGRATED SOLUTIONS
GAS & MARINE**

At Sing Swee Bee Group (SSB Group), we pride ourselves on being at the forefront of the Gas, Energy, and Marine industries across Asia. Our commitment to high-quality products and services, along with innovative solutions, has cemented our reputation as a leading Integrated Solution Provider in Singapore.

We continue to collaborate closely with industrial partners and patent owners to enhance our capabilities within the industry.

Discover our comprehensive range of solutions to meet your needs and elevate your business to new heights.

singsweebeegroup.com

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SING SWEE BEE ENTERPRISE

Leading Gas Equipment & Products Supplier -
Specializes In Industrial Gas Solutions

INDUSTRIAL CYLINDERS



Seamless Steel Gas Cylinder

Size

1 to 80 litres

Application

Industrial gases, medical gases & specialty gases



Aluminium Gas Cylinder

Size

2.8 to 50 litres

Application

Industrial gases, medical gases & specialty gases, beverage industries, scuba diving tank.



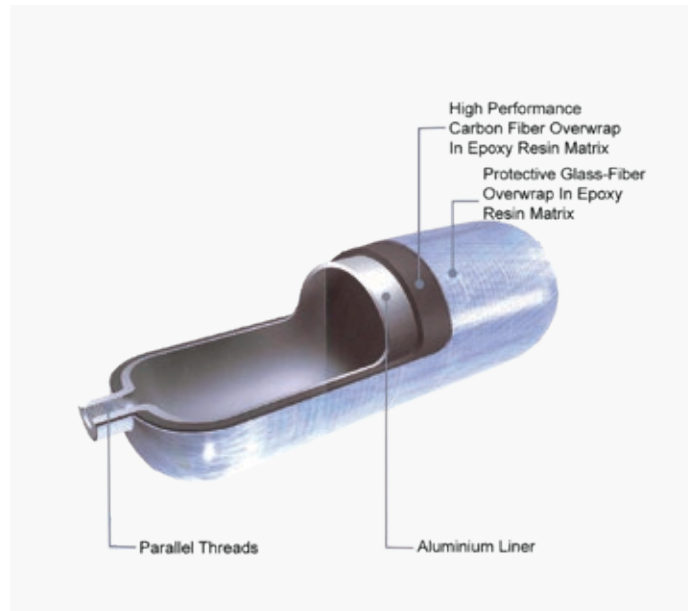
Oxygen Resuscitation Kit

Size

2.9 litres

Application

For medical professionals and trained first-aiders to administer oxygen during CPR, and provide initial treatment for conscious patients.



Aluminium Composite Cylinder

Size

6.8, 9.0 litres

Application

Fire-fighting cylinder, self-contained breathing apparatus, paintball gun cylinder, home oxygen therapy set, aircraft oxygen tank.

INDUSTRIAL CYLINDERS



Welded Steel Cylinder & Tonne Drum

Size

21.3, 60, 84, 108 & 133 litres
(Tonne Drum from 800 - 1,000 litres)

Application

Ammonia (NH₃), Chlorine (Cl₂), Propane (C₃H₈),
Liquefied Petroleum Gas (LPG), Propylene (C₃H₆),
Sulfur Dioxide (SO₂), Refrigerant Gas



Acetylene Cylinder

Asbestos-free acetylene cylinders are available.



Long-Tube Trailer

Medium

Argon (Ar), Compressed Natural Gas (CNG),
Helium (He), Hydrogen (H₂), Nitrogen (N₂), Oxygen (O₂)

REFRIGERANTS



R32

- For industrial refrigeration and air conditioning applications.
- A lower GWP alternative to replace R410A.



R134A

- For domestic, commercial and industrial usage (Automotive, agricultural air conditioning system)
- Fluid cooling and heat pump refrigeration.



R404A

- Commercial and industrial cooling domains and refrigerated transportation.
- Central refrigerating plants (superstores, supermarkets) and refrigerated warehouses.



R407C

- For residential and light air conditioning and direct expansion air conditioning systems.



R410A

- For industrial refrigeration and air conditioning applications.



R507

- Industrial refrigeration for new setups including flooded evaporators such as skating rings.

Other Refrigerants

- R290, R417A, R600, R1234YF

INDUSTRIAL VALVES

Uni-Valve		
General Valve		
Medical Valve		
Ammonia Valve		
Refrigerant Valve		
Fire-Fighting Valve		
DA Valve		
LPG Valve		

GOETZE SAFETY VALVES



Series 2140 & 2180

Shut-off / Globe valve with position indicator in straight-through form for use on cryogenic tanks, cryogenic containers, transport containers and systems for the production, storage and transport of cryogenic liquid such as LIN, LOX, LAR, LCO2, LNG.

- N2 in pharmaceutical / foodstuffs applications
- O2 for medical supply equipment
- LAR for welding
- CO2 for foodstuffs / industrial applications
- Cooling plants
- Cooling plants

The globe valves are always manufactured free of oil and grease.



Series 2400 & 2480

Full-lift safety valve for the protection of containers and pipelines for the storage and transport of cryogenic liquid such as LIN, LOX, LAR, LCO2, LNG.

- Tunnel freeze plants
- Dry ice blasting plants
- Cryogenic plant construction
- Liquid nitrogen dosing
- Cryogenic milling process
- Cryogenic machining
- Ground freezing plants
- Gases used in medical equipment
- Plants for cryogenic gases which come into contact with foodstuffs

Safety valves are set and sealed at the factory and are oil- and grease-free as standard.



Series 2580

Overflow valve / Thermal relief valve for the protection of containers and pipelines for the storage and transport of cryogenic liquid such as LIN, LOX, LAR, CO2, LNG. The valve is used to manage the boil-off gas in a safe way.

- Tunnel freezer plants
- Dry ice blasting plants
- Cryogenic plant construction
- Liquid nitrogen dosing
- Cryogenic milling process
- Cryogenic machining
- Ground freezing plants
- Gases used in medical equipment
- Plants for cryogenic gases which come into contact with foodstuffs

Overflow valves of this type are oil- and grease-free as standard.



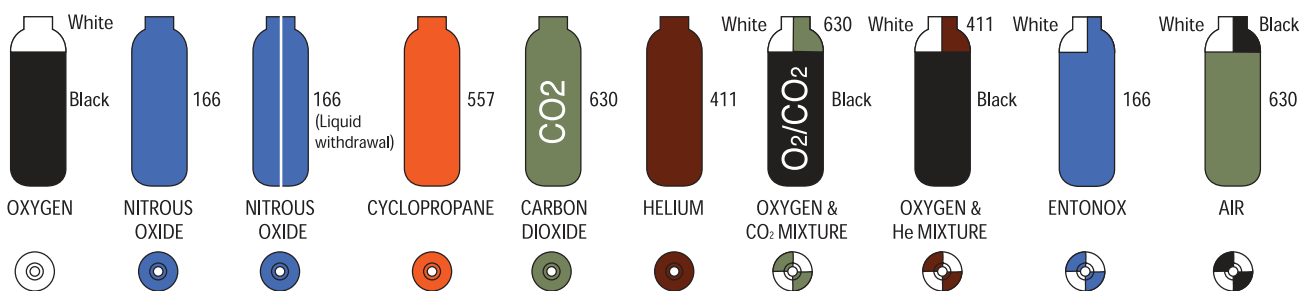
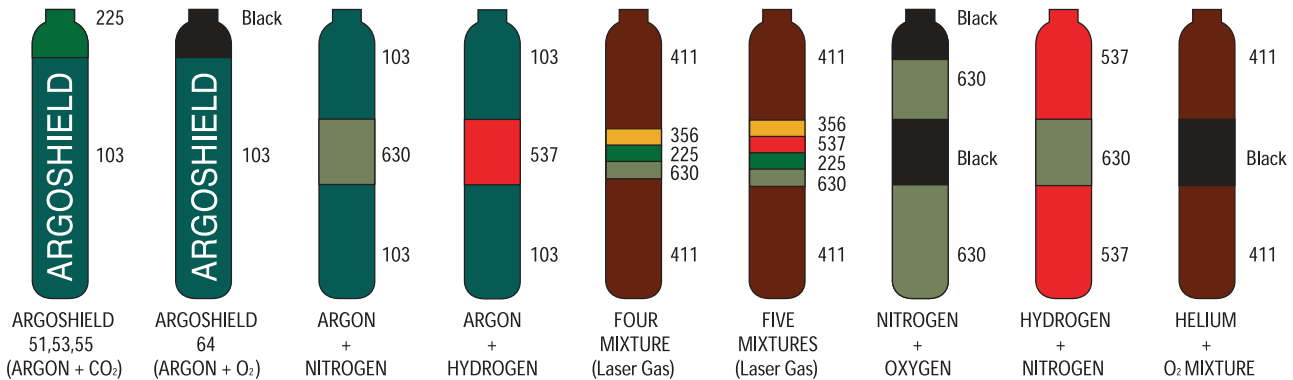
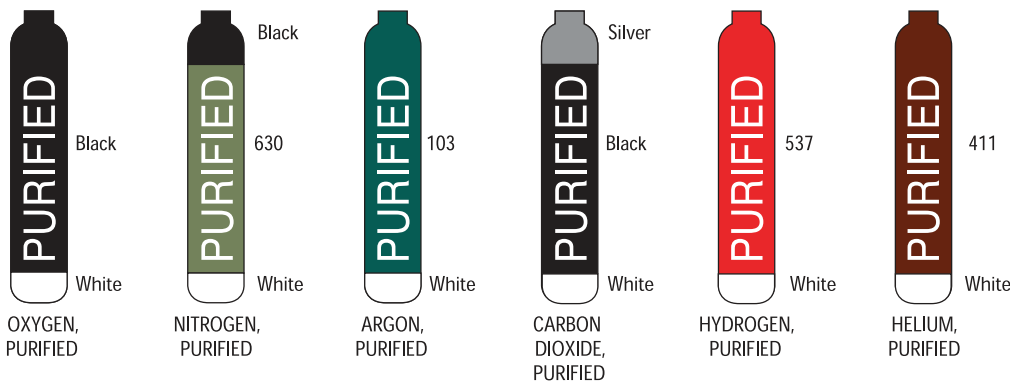
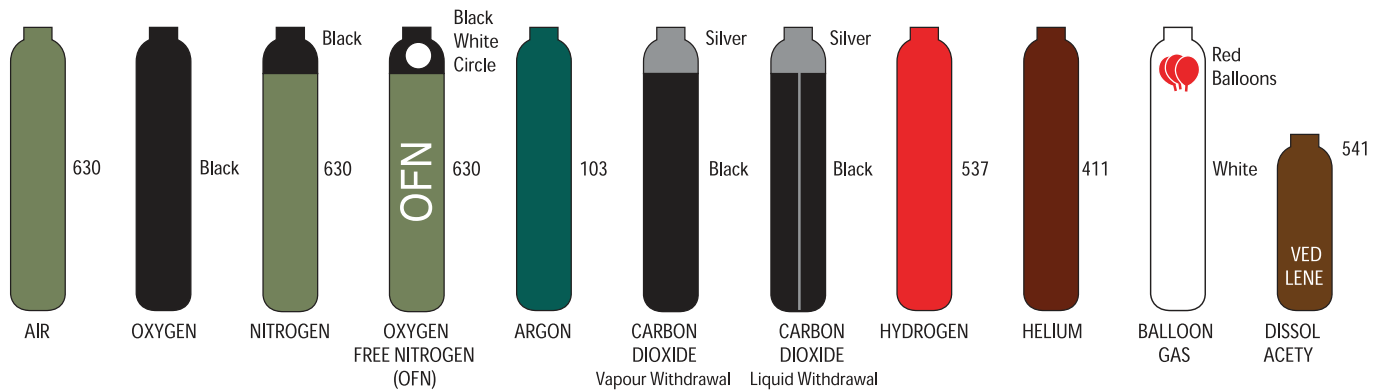
Series 2780 & 2781

Diverter ball valve for the installation of for example two safety valves in combination with bursting discs for the protection of containers designed for the storage of cryogenic gases. The requirements of the PED relating to redundant or diverse safety devices are fulfilled by this fitting in combination with safety valves of the 2400 / 2480 series. On each side two additional connections for bursting discs are available. In case the safety valves need to be maintained or the bursting discs replaced, the side requiring maintenance can be shut off.

- For the storage of cryogenic liquified gases such as LIN, LOX, LAR, CO2, LNG.
- N2 in pharmaceutical/foodstuffs applications
- O2 for medical supply equipment
- LAR for welding
- CO2 for foodstuffs / industrial applications
- Cooling plants

The ball-valves are oil- and grease-free as standard. Available as 4-way valve or made of stainless steel.

GASES - INDUSTRIAL, SPECIALTY, CALIBRATED



Specialty Gases:

- Calibration Mixtures
- Carbon Monoxide
- Ethylene
- Sulfur Hexafluoride
- Silane
- Research Grade
- Krypton
- Neon
- Xenon

Other Gases:

- Ammonia
- Chlorine
- Ethylene Oxide (EtO)
- Fuming Gas (Sterilizing Gas)
- Liquefied Petroleum Gas (LPG)
- Nitrous Oxide (N2O)
- Sulfur Dioxide (SO2)

630 - Nitrogen	411 - Helium
Black - Oxygen	356 - Carbon Monoxide
103 - Argon	541 - Acetylene
225 - Carbon dioxide	166 - Nitrous Oxide
537 - Hydrogen	557 - Cyclopropane

HVAC & ACCESSORIES

ROBINAIR



Model
15301-S2
15501-S2

CFM
3.0
5.0



Model
15701-S2

CFM
6.5



Model
15801-S2

CFM
8.0



Model
15121A

CFM
10.0



Model
15601

CFM
6.0

Vacuum Pump



Charging Manifold & Hose

	Model	Specifications
Charging Manifold	40190C	For R22, R134A, R404A
Charging Hose Set	30060	3pcs 1/4" SAE 60"
	30072	3pcs 1/4" SAE 72"
Charging Manifold with Hose Set	40179C	For R22, R410A
	40153	For R22, R134A
	45111	For R134A

Identifier

To identify whether it's safe to recover and recharge the refrigerant, prevent refrigerant contamination and to avoid damage to A/C service and handling equipment



Electronic Leak Detector

- Provide thorough check for leaks
- For all CFC, HFC, HCFC refrigerants



Recovery/Recycling Unit

To recover, recycle, evaluate and recharge refrigerant in one continuous operation. Ideal for refrigerated trailers, buses and other vehicles that uses more than one refrigerant.

HVAC & ACCESSORIES



Condensate Pump

To remove condensate from wall mount, ductless minisplit air conditioners up to 34,000 Btu, condensate from fan coils and suspended ceiling air conditioners.



Magnetic Drive Pump

Leak-proof design to provide continuous, reliable operation when pumping of corrosive liquid is required.



Submersible Pump

Prevents pump cavitation that occurs when there is a high elevation difference between pump and fluid surface.

Typically used for residential, commercial, municipal and industrial water extraction, water wells and oil wells.

ROTARY VANE VACUUM PUMP



DM8



DM15



DM25

Model Number		DM2	DM4	DM8	DM15	DM25
Air Extraction Rate L/S		2	4	8	15	25
Ultimate Partial Pressure (Pa)	Air ballasting off	$\leq 4 \times 10^{-2}$	$\leq 4 \times 10^{-2}$	$\leq 4 \times 10^{-2}$	$\leq 4 \times 10^{-2}$	$\leq 4 \times 10^{-2}$
	Air ballasting on	$\leq 8 \times 10^{-2}$	$\leq 8 \times 10^{-2}$	$\leq 8 \times 10^{-2}$	$\leq 8 \times 10^{-2}$	$\leq 8 \times 10^{-2}$
Ultimate Total Pressure (Pa)	Air ballasting off	$\leq 5 \times 10^{-1}$	$\leq 5 \times 10^{-1}$	$\leq 5 \times 10^{-1}$	$\leq 5 \times 10^{-1}$	$\leq 5 \times 10^{-1}$
	Air ballasting on	$\leq 8 \times 10^{-1}$	$\leq 8 \times 10^{-1}$	$\leq 8 \times 10^{-1}$	$\leq 8 \times 10^{-1}$	$\leq 8 \times 10^{-1}$
Noise LP/LW		52/63	54/65	58/71	59/72	64/77
Air Inlet Diameter (DN)		25KF	25KF	40KF	40KF	40KF
Air Outlet Diameter (DN)		25KF	25KF	40KF	40KF	40KF
Oil Usage (L)		1.1	1.5	3	4	5
Rotating Speed (r/min)		1400	1430	1400	1420	1400
Electric Motor Power (kw)		0.37	0.55	1.1	1.5	3.0
Weight (kg)		24	31	60	70	117
Dimensions (mm)		580 x 174 x 274	620 x 174 x 274	660 x 226 x 360	750 x 226 x 360	812 x 278 x 450



CRYOGENIC & STORAGE EQUIPMENT



ISO Tank

Type	Medium	Gross Capacity (Litres)	MAWP* (Bar)
T50 (20ft.)	<ul style="list-style-type: none"> • Anhydrous Ammonia • Butane • Propylene • Refrigerant Gas 	24,370	Up to 43
T75 ISO Tank (20ft.)	<ul style="list-style-type: none"> • Liquid Nitrogen (LIN) • Liquid Oxygen (LOX) • Liquid Argon (LAR) • Liquid Ethylene (LC2H4) • Liquid Ethane (LC2H6) • Liquid Natural Gas (LNG) 	20,000	8, 10, 16, 18
	<ul style="list-style-type: none"> • Liquid Carbon Dioxide (LCO2) • Liquid Nitrous Oxide (LN2O) 	20,000	24
T75 ISO Tank (40ft.)	<ul style="list-style-type: none"> • Liquid Ethylene (LC2H4) • Liquefied Natural Gas (LNG) 	43,500	8
T75 Offshore Portable ISO Tank (10ft.)	<ul style="list-style-type: none"> • Liquid Nitrogen (LIN) • Liquid Oxygen (LOX) • Liquid Argon (LAR) 	7,890	6

*MAWP - Maximum Allowable Working Pressure - Additional options available.

CRYOGENIC & STORAGE EQUIPMENT



Microbulk

Water Capacity (Litres)
1,000 - 5,000

Working Pressure (Bar)
≤ 35

Medium
LIN, LOX, LAR, LCO₂, LNG

Applications

- Medical Industry (Hyperbaric Chamber, Cryotherapy)
- Laboratory / Research (Gas Chromatography, Biological Storage)
- Metal Fabrication (Welding and Cutting)
- Metal Processing (Heat Treating, Cryotempering, Thermal Spray Coating)
- General Processing (F&B Packaging, Purging)



Liquefied Gas Cylinder (LGC)

Water Capacity (Litres)
175 - 495

Working Pressure (Bar)
≤ 28.8

Medium
LIN, LOX, LAR, LCO₂, LNG

Applications

- Medical Industry (Hyperbaric Chamber, Cryotherapy)
- Laboratory / Research (Gas Chromatography, Biological Storage)
- Metal Fabrication (Welding and Cutting)
- Metal Processing (Heat Treating, Cryotempering, Thermal Spray Coating)
- General Processing (F&B Packaging, Purging)

CRYOGENIC & STORAGE EQUIPMENT



Storage Tank

Water Capacity (Litres)
5,000 - 50,000

Working Pressure (Bar)
Up to 37

Medium
LIN, LOX, LAR, LCO₂, LN₂O, LNG

Applications

For long-term storage of cryogenic liquid. *Customised design available



Ambient Vaporizer

Designed with high efficiency operation, utilizing single extrusion for low and high pressure application.

CRYOGENIC & STORAGE EQUIPMENT



Gearbox Version



Direct Coupled Version

Centrifugal Pump

- **Gearbox Version (CP/AC):** Compact design with heavy duty splash lubricated gearbox.
- **Direct Coupled Version (DCP/DAC):** Designed with pressure balanced mechanical seals that reduces sensitivity and increase pump life.
- Liquid pumped: LIN, LOX, LAR, LCO₂, LN₂O.



Medium-Heavy Duty Cylinder Filling Pump

- Unattended, automatic cylinder filling.
- Liquid pumped: LIN, LOX, LAR, LNG, Ethylene



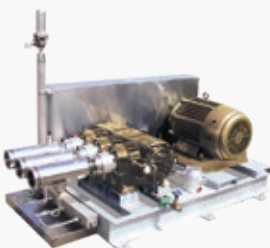
Cylinder Filling Pump

- For LIN, LOX, LAR, LH₂, LNG, Ethylene cylinder filling application



Reciprocating Pump

- For cylinder and buffer tank filling
- Liquid pumped: LIN, LOX, LAR, LCO₂ LN₂O, LNG



Storage Filling Pump

- Modular, compact displacement pumps available in 1, 2 or 3 cylinder configurations.
- Liquid pumped: LIN, LOX, LAR, LH₂, LNG



Vane Pump



Turbine Pump

Other Equipment

- Vane Pump (LPG, Ammonia)
- Turbine Pump (LPG)

PLANT AND GENERATOR SYSTEM



Generator and Systems

- Air Separation Unit
- Hydrogen Generator
- Oxygen Generator
- Nitrogen Generator
- Gas Recovery System
- LN2 Converter
- Acetylene Plant
- Acetylene Compressor
- Carbon Dioxide Production Plant
- Carbon Dioxide Recovery Plant
- Nitrous Oxide Plant
- Nitrous Oxide Purification Plant
- EtO Plant
- Fuming Gas Plant
- Medical Oxygen Generator
- LPG Refueling Plant
- Modular Ozone Generator

INDUSTRIAL HOSES

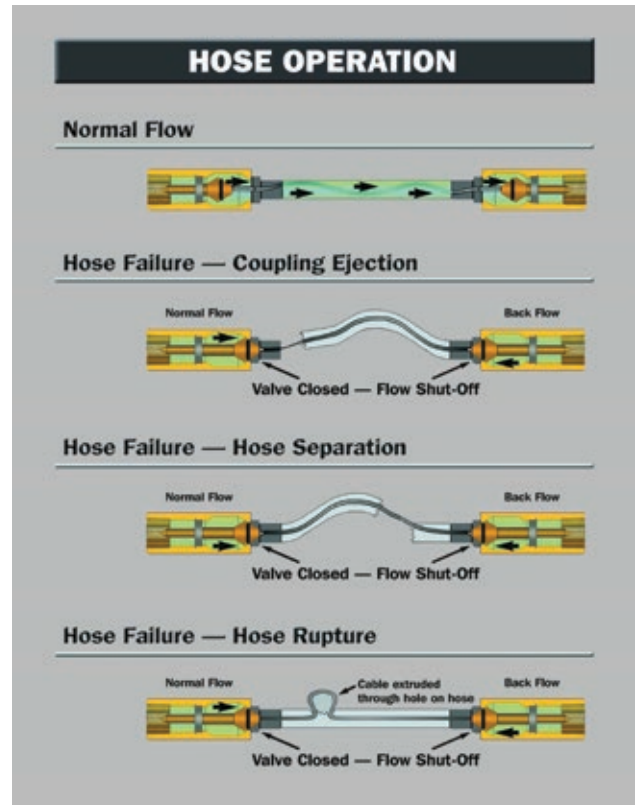


Lifeguard Technologies is the World's leading provider of safety hoses. Lifeguard supply to leading petrochemical and industrial gas companies - many of whom have established standards, specifications and protocols for LIFEGUARD™ technology.

With more than 400,000 of hoses in service and 6 patents, Lifeguard Technologies have established safety standards that have been adopted by ISO and CGA.

LIFEGUARD™ design utilizes a unique, patented, and patent-pending system that eliminates the potential for disaster through the use of an internal cable or engineered compression spring connected to specially designed, normally unseated valves located on each end of the cable or spring.

In the event of hose separation, stretching to the point of an unsafe condition, or coupling-to-hose separation, the valves are released and instantly seat, stopping the flow in both directions.



FIRE PREVENTION SYSTEM



Fire Systems and Accessories

- FM200 Cylinder
- Fire-Fighting Valve
- Fire Extinguishers (Water, Powder, Foam, CO2, Wet Chemical)
- End Suction Fire Pump
- Fire Extinguishers Powder Filler
- Gate / Check Valve
- Wall Type Indicator Post
- Automatic Fire Alarm/Fire Detection System and Accessories
- Sprinkler Systems and Accessories
- FM200 / CO2 / Inergen Fire Suppression Systems
- Foam Fire Suppression System
- Industrial Dry Chemical Fire Suppression System
- Water Mist Fire Suppression System

SERVICE & MAINTENANCE EQUIPMENT



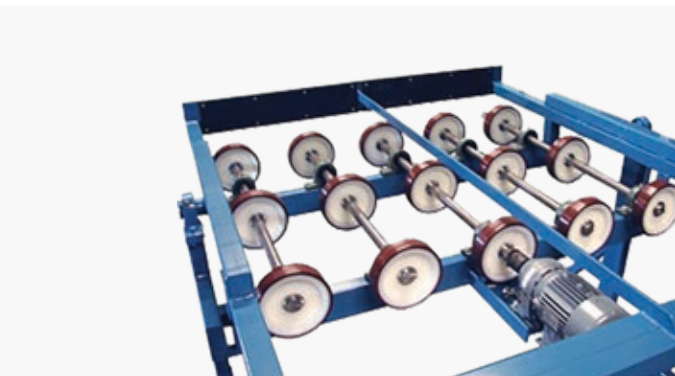
Cylinder Valving/Devalving Machine

- Comes with or without inverter.
- To remove and insert valves into seamless gas cylinders, welded gas cylinders and fire extinguishers
- Machine can be mounted on a wall or pillar.
- Robust machine with few spare parts needed.



Cylinder Interior Cleaning Machine

- Steel rods will be inserted, moving along cylinder wall to scrap off rust on shoulder and bottom of the cylinder.
- Able to clean 8 cylinders per hour



Cylinder Mixing & Rolling Machine

- For 1, 2, 4 or 6 gas cylinders
- Using a double acting compressed air cylinder, the frame and cylinder is turned to horizontal position and locked



Cylinder Pallet



Other Equipment

- Cylinder Drying Unit
- Hydraulic Proof Pressure Test Unit



Cylinder Manifold



SSB CRYOGENIC EQUIPMENT

Comprehensive ISO Tank Leasing,
Repair and Maintenance Solutions

ISO TANK LEASING



T50 and T75 ISO tank leasing and rental service (For both short and long term period)

- ISO tank with low boil-off rate
- High-quality European tanks that are maintained regularly to ensure high performance.
- Has been reviewed and approved by major LNG loading facilities to load and transport LNG.



SUPPLY, TRANSPORTATION & DISTRIBUTION



Unloading of LNG



Transportation & distribution of bulk liquids with SSB's fleet of prime movers

Provide transportation, logistics management, and supply of cryogenic and hydrocarbon bulk liquids. High purity cryogenic liquids suitable for industrial and medical applications. (* Purity up to 99.99995%)

- Liquid Argon (LAR)
- Liquid Carbon Dioxide (LCO₂)
- Liquid Nitrogen (LIN)
- Liquid Oxygen (LOX)
- Liquefied Natural Gas (LNG)
- Liquid Ethylene (LC₂H₄)
- Liquid Nitrous Oxide (LN₂O)
- Liquefied Petroleum Gas (LPG)
- Anhydrous Ammonia
- Refrigerants

HYDROSTATIC TESTING



Hydrostatic testing is essential for maintaining the safety and integrity of the long tube cylinders, meeting both regulatory requirements and customer specifications. Utilizing calibrated instruments like pressure gauges and recorders, we ensure accurate results that comply with industry standards.

REPAIR & MAINTENANCE



In-house repair & maintenance facility



Acoustic leak detection



Vertical storage tank repair

Technical Capabilities

- Structural refurbishment (Sandblasting / Rust Removal / Painting)
- Heating and vacuum pulling of annular space
- Piping modifications and maintenance
- Helium leak test
- Preparation of periodic inspection and re-certification for ISO tank

REPAIR & MAINTENANCE



SSB's in-house Technical Service Centre provides in-house and on-site repair, maintenance and troubleshooting of cryogenic storage tank such as ISO tanks, LGC, microbulk and vertical storage tanks.



(Before) Tank's surface, beam, and frame support are badly damaged and corroded. Liquid level gauge malfunctioned.



(After) Tank's surface, beam, and frame support were fully restored to optimal condition. Liquid level gauge replaced and checked to ensure functionality.



SSB CRYOGENIC SERVICES

Precision In Every Test -
Delivering Broad Spectrum Of LNG Solutions

N2 PURGING OPERATIONS



Nitrogen (N₂) Purging Operations

- Onshore / Offshore
- Pipelines
- Cargo Tanks
- Plant & Terminal

N2 PURGING OPERATIONS



N2 PURGING OPERATIONS



NON-DESTRUCTIVE TESTING



- Global Test
- Helium Leak Test
- Vacuum Box Test
- Dye Penetrant Test
- Secondary Barrier Tightness Test (SBTT)
- Acoustic Emission Test
- Thermal Assessment of Membrane Integrity (TAMI)
- In Partnership with Actemium

CREDENTIALS

- GTT : Certificate for Testing Capacity on In-Service GTT Membrane Tanks
ABS : Certificate of Recognized Service Supplier
BV : Global Vacuum Testing of Primary and Secondary Barriers
DNV : Approval of Service Suppliers
LR : Approved Service Supplier



NON-DESTRUCTIVE TESTING



Offshore Global Testing



Offshore Global Testing



Onshore Global Testing



TAMI Testing For Loaded LNG Carriers

NON-DESTRUCTIVE TESTING



Vacuum Box Test



Helium Leak Test

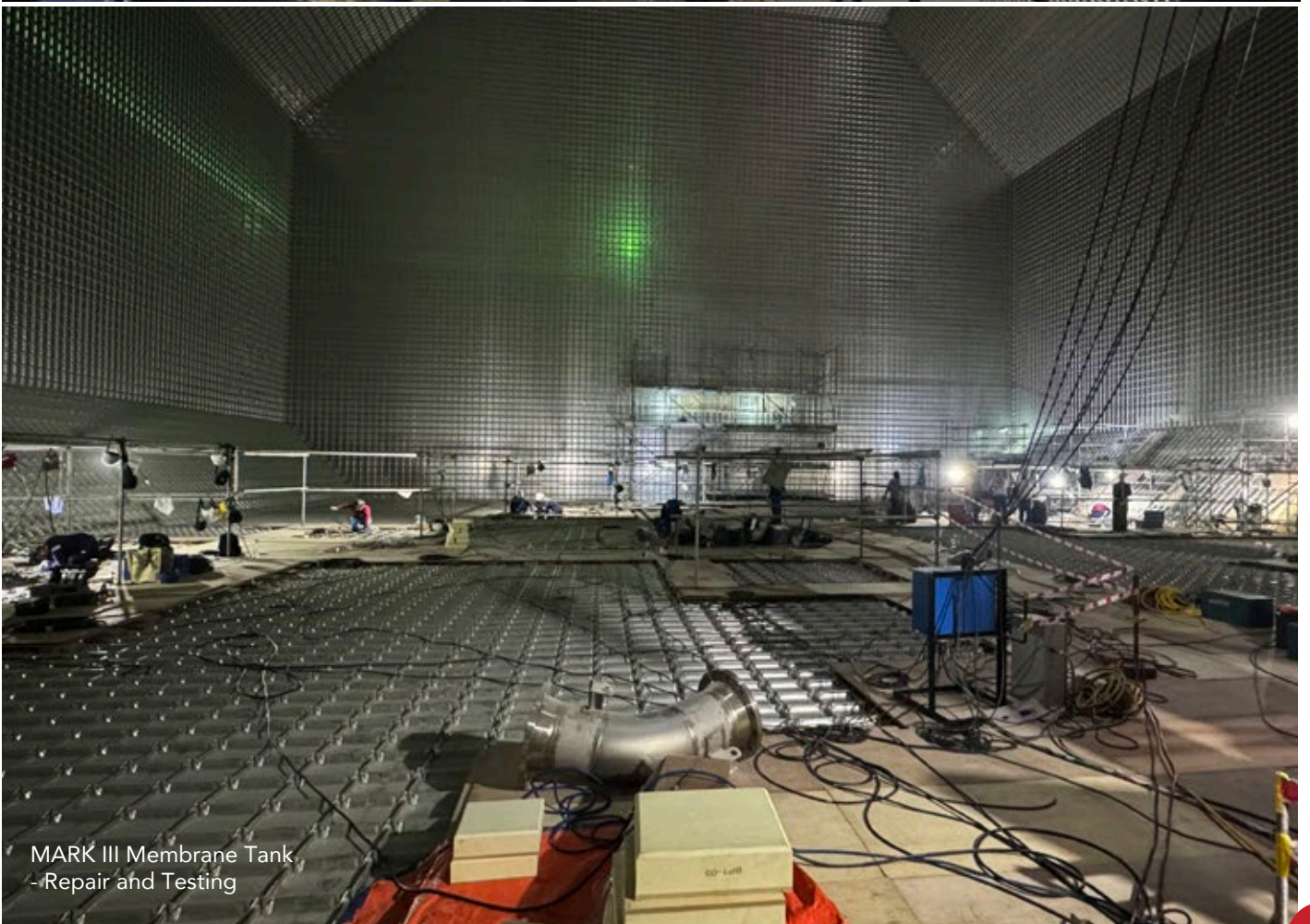


Helium Leak Test

NON-DESTRUCTIVE TESTING



MARK III Membrane Tank
- Repair and Testing



MARK III Membrane Tank
- Repair and Testing

LNG PROJECT SOLUTIONS



Project Commissioning, Management and Provision of Equipment -
The 1st small-scale LNG turnkey project in Singapore



Testing and Repair of Membrane Containment Systems -
The 1st total replacement of LNG membrane containment system in Asia

LNG PROJECT SOLUTIONS



Regasification, LNG Transferring Service, and Provision of Equipment -
The 1st commercial LNG bunkering project in Singapore



LNG Transferring and Bunkering Service -
The 1st LNG-powered tug project Southeast Asia

LNG PROJECT SOLUTIONS



Engineering, Procurement, Construction and Commissioning (EPCC) solutions -
The 1st LNG storage and refuelling station in Singapore

TURNKEY PROJECT SOLUTIONS

Design, Supply, Install and Commissioning of Plants and Systems

- Cylinder Refilling Plant
- Cryogenic Storage & Vaporization System
- Carbon Dioxide (CO₂) Production & Recovery Plant
- Mini LNG Plant
- LPG Liquefaction Plant



Provisioning and commissioning of storage and vaporization systems




Commissioning of automated vaporization system

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